

REMARKS

Claims 1-24 and 26-57 have been examined. Claims 1-3, 5, 10-13, 15, 19, 21-24, 26, 30, 33, 44, 47-49 and 51 have been rejected under 35 U.S.C. § 102(b), claims 22-24, 26, 30, 31, 33, 44 and 45 have been rejected under 35 U.S.C. § 102(e), and claims 7, 28, 38 and 39 have been rejected under 35 U.S.C. § 103(a). Also, the Examiner has indicated that claims 27, 32, 34-37 and 46 are allowed, and claims 4, 6, 8, 9, 14, 16-18, 20, 29, 40-43, 50 and 52-57 contain allowable subject matter.

Preliminary Matters

The Examiner has approved Fig.11, which was submitted with the April 29, 2003 Amendment. Accordingly, Applicant is submitting a formal drawing for Fig. 11 with this Amendment.

Rejections under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1-3, 5, 10-13, 15, 19, 21-24, 26, 30, 33, 44, 47-49 and 51 under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent No. 4,567,119 to Lim ("Lim").

A. Claim 1

Applicant submits that claim 1 is patentable over the cited reference. For example, claim 1 recites that a thermal management system has at least one duct defining a single flow path. The single flow path contacts an outer wall of each of a plurality of cells in a serial manner. Further, the duct is adapted to allow a liquid medium to flow therethrough.

The Examiner maintains that Lim discloses the above features. In particular, the Examiner notes that in Fig. 1 of Lim, fluid flows vertically down tube 26 and in a serial manner through all of the horizontal tubes (coolant plates 32, 34). Further, the Examiner maintains that the fluid continues through the vertical tube 26 until all horizontal tubes (coolant plates 32, 34) are filled with fluid in a serial manner. Therefore, the Examiner maintains that Lim discloses a single flow path.

On the contrary, the flow of fluid into the vertical tube 26, as well as the multiple horizontal tubes (32, 34), fails to teach or disclose a single flow path. Rather, as stated by the Examiner, fluid will be filled in all horizontal tubes (32, 34) shown in Fig. 1. Applicant submits that such a statement indicates that multiple flow paths are formed, since each horizontal tube (32, 34) creates a separate flow path.

Also, as stated above, claim 1 recites that the single flow path contacts an outer wall of “each” of the plurality of cells. As shown in Fig. 1 of Lim, the fluid that flows into the uppermost horizontal tube (32, 34) will not flow through and contact outer walls of the horizontal tubes (32, 34) lower down in the stack, which further demonstrates that multiple flow paths are formed.

Accordingly, Applicant submits that claim 1 is patentable over the cited reference, since Lim fails to teach or disclose a single flow path.

B. Claims 2, 3, 5 and 10

Since claims 2, 3, 5 and 10 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 11

Since claim 11 contains features which are analogous to the features recited in claim 1, Applicant submits that such claim is patentable for at least similar reasons as presented above.

D. Claims 12, 13, 15, 19 and 21

Since claims 12, 13, 15, 19 and 21 are dependent upon claim 11, Applicant submits that such claims are patentable at least by virtue of their dependency.

E. Claim 22

In the April 29, 2003 Amendment, Applicant indicated to the Examiner that claim 25 was canceled, and the subject matter of claim 25 was incorporated into claim 22. However, the amendment to claim 22 was inadvertently omitted. Therefore, the Examiner examined claim 22 without the proposed amendment. Accordingly, Applicant has amended claim 22 in response to the present Office Action.

In view of the amendment, Applicant again asserts that Lim fails to teach or disclose a thermally conductive medium positioned between at least one of the plurality of thermal jackets

(coolant plates 32, 34) and the cells, where the thermal jacket (coolant plates 32, 34) contacts the cell. Since the Examiner has allowed claim 4 over Lim, which recites the thermally conductive medium, Applicant submits that claim 22 overcomes the present rejection.

F. Claims 23, 24, 26, 30, 33 and 44

Since claims 23, 24, 26, 30, 33 and 44 are dependent upon claim 22, Applicant submits that such claims are patentable at least by virtue of their dependency.

G. Claim 47

Since claim 47 contains features which are analogous to the features recited in claim 1, Applicant submits that such claim is patentable for at least similar reasons as presented above.

H. Claims 48, 49 and 51

Since claims 48, 49 and 51 are dependent upon claim 47, Applicant submits that such claims are patentable at least by virtue of their dependency.

Rejections under 35 U.S.C. § 102(e)

Claims 22-24, 26, 30, 31, 33, 44 and 45 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 1,152,247 to Walker ("Walker").

A. Claim 22

Similar to the above statements, the amendment claim 22 was inadvertently omitted in the April 29, 2003 Amendment. Therefore, Applicant has amended claim 22 in response to the present Office Action. In view of the amendment, Applicant submits that claim 22 is patentable over Walker, since the reference fails to teach or disclose a thermally conductive medium.

B. Claims 23, 24, 26, 30, 33, 44 and 45

Since claims 23, 24, 26, 30, 33, 44 and 45 are dependent upon claim 22, Applicant submits that such claims are patentable over the cited reference at least by virtue of their dependency.

C. Claim 31

Applicant submits that claim 31 is patentable over the cited reference. For example, claim 31 recites a thermal management system for a battery including a plurality of cells comprising a plurality of thermal jacket for receiving a liquid thermal medium. Further, the thermal jackets each define a single flow path, and are located between adjacent ones of the plurality of cells.

The Examiner maintains that such features are disclosed in Walker. However, Applicant believes the Examiner is misinterpreting and/or misapplying the cited reference. For example, Walker discloses a battery tank 10 comprising an inner jar 12 made of an insulating material and

an outer jar 13 composed of metal (Fig. 1; page 2, left column, lines 13-26). Metal jar 13 has numerous channels 15 and ribs 14, which provide air passages to allow for air ventilation in between jars (Fig. 1; page 2, left column, lines 36-48). The circulation of air moves heat away from the cells (page 2, left column, lines 57-65). Such ventilation passages are not thermal “jackets”, and are not formed to regularly receive any type of liquid for thermal management, let alone a liquid “thermal” medium, as required by claim 31.

In addition, as shown in Figure 1 of Walker, even if a thermal liquid was introduced into the numerous channels 15 and ribs 14, water would flow in every direction, rather than in single flow paths, as required by claim 31. Therefore, Walker fails to teach or suggest every limitation of claim 31.

Accordingly, Applicant submits that such claim is patentable over the cited reference and respectfully requests the Examiner to withdraw the rejection.

Rejections under 35 U.S.C. § 103(a)

Claims 7, 28, 38 and 39 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lim.

A. Claim 7

Since claim 7 is dependent upon claim 1, and Lim fails to teach or disclose the features of claim 1, Applicant submits that claim 7 is patentable at least by virtue of its dependency.

B. Claims 28, 38 and 39

Since claims 28, 38 and 39 are dependent upon claim 22, and Lim fails to teach or disclose the features of claim 22, Applicant submits that claims 28, 38 and 39 are patentable at least by virtue of their dependency.

Allowable Subject Matter

The Examiner has indicated that claims 27, 32, 34-37 and 46 are allowed, and claims 4, 6, 8, 9, 14, 16-18, 20, 29, 40-43, 50 and 52-57 contain allowable subject matter.

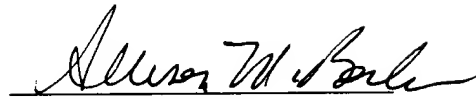
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any

Amendment under 37 C.F.R. § 1.116
U.S. Patent Application No. 09/862,591

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Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Allison M. Bowles", written over a horizontal line.

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23373

CUSTOMER NUMBER

Date: October 14, 2003